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LISTING OF THE CLAIMS

Claims 1-47 (canceled)

Claim 48 (amended) A method for data processing data system for determining identity of an element (N+1) to N elements of in a database contained in a storage medium, comprising the steps of:

- (a) storing in the database data that includes at least one pattern, the data based upon a statistically significant number of samples, the data including at least one parameter of each sample ~~computer processing means for processing data ;~~
- (b) comparing unknown data with the data stored in the database; ~~data storage means for storing data in said database contained in said storage medium; and~~
- (c) means for processing data regarding comparing a parameter of said (N+1) element with said parameter of said N elements of said database, wherein said element is a protein or polypeptide ; wherein step (c) is repeated at least M times, wherein each of M parameters is examined at each iteration, wherein M is 3 or more; and wherein when said (N+1) element does not have M identical parameters of one of said N elements, said data storage means (b) adds data of said (N+1) element and of said M parameters thereof to said database to produce a new database comprising (N+1) elements. recording differences and similarities.

Claim 49 (as previously submitted) The system method of claim 48, wherein said element is a the at least one pattern represents proteins or polypeptides.

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Claim 50 (amended) The ~~system~~ method of claim 49 ~~48~~, wherein ~~said two of said three~~ the parameters is one selected from the group consisting of: ~~are~~ molecular weight and isoelectric point.

Claim 51 (amended) The ~~system~~ method of claim 49 ~~48~~, wherein ~~one of said three elements~~ parameter is data output from a mass spectrometry analysis ~~of said element~~.

Claim 52-70 (canceled)

Claim 71 (New) The method of claim 48, wherein the samples are selected from one of the group consisting of serum, organ, tissues, cells, organelles and fractions.

Claim 72 (New) The method of claim 48, wherein the differences and similarities in the database indicate one of the following states: aging, disease, presence of a toxin and presence of a pathogen.

Claim 73 (New) The method of claim 48, wherein a state is classified, the state selected from the group consisting of: a disease state, the presence of a toxin, the presence of a pathogen and aging.

Claim 74 (New) The method of claim 48, further comprising the step of:

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classifying a state of a sample by the steps of:

- a. detecting a pattern in the sample;
- b. comparing the pattern in the sample with the stored patterns in the database to identify differences and similarities; and
- c. using the identified differences and similarities to confirm the state thereof.

Claim 75 (New) The method of claim 74, wherein the state is selected from the group consisting of: a disease state, the presence of a toxin, the presence of a pathogen and aging.

Claim 76 (New) The method of claim 48 or 73, wherein the pattern is a discriminatory pattern.